

Work Order ID 143553

Tuesday, March 15, 2016 3:22:36 PM

143553

Page 1

Item ID: D119-796-151 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: FWD Crosstube Installation with Step (no hardware)
 Start Date: 3/21/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 3/25/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: MCS Date: MAR 16 2016 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D119-796-151	D								

110 Document Control 0.00
110
 DC Memo 0.00
 Doc.Control -USB or Paperwork Photocopy bluefile and create labels as per PPP D119-796-151 chg 004

[Signature] MCS MAY 27 2016

120 Pick Kit 0.00
120 Packaging 0.00
 Packaging Memo
 Packaging

144539

DAS
41
9-89

16-5-19

130 Crosstubes 0.00
130 Crosstubes 0.01
 Crosstubes Memo
 Crosstubes 1- Install step and clamp with the proper position per dwg D119-796-151
 Torque all clamps to 50 IN-LBS max.

DAS
41
9-89

16-5-19

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Page 2

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
140									
QC	Memo	0.00							
Quality Control	***RE-CHECK TORQUE ON CLAMP AS PER DWG.***								
	***VERIFY BY <u>DAS</u> BATCH # TO MATCH W/O								
	***VERIFY BY <u>3143553</u> PART # TO MATCH								
	W/O <u>3143553</u>								
150	Packaging	0.00							DAS 41 9-89
150									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D119-796-151								16-5-19
	For final assembly								
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.00							
Quality Control									

MCS MAY 27 2016

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Root Cause		FAULT CATEGORY																																																													
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____	
Misidentified ☐	Past Due ☐																																																														

Picklist Print

Tuesday, March 15, 2016 3:22:36 PM

Page 1

Work Order ID: 143553

143553

Parent Item: D119-796-151

D119-796-151

Parent Item Name: FWD Crosstube Installation with Step (no hardware)

Start Date: 3/21/2016

Required Date: 3/25/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 14.09.09 NEW ISSUE DD VERF:JLM IPP
REV:B 14.11.19 AS PER REV.C DD VERF:JLM IPP REV:C
14.12.09 AS PER REV.PC6 DD VERF:JLM IPP REV:D 15-02-11
AS PER REV D JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D119-796-141		Manufactured	No				Each	0.0000		1		DAS 41 9-89	16-5-2
D119-796-141					144539				**	1			
FWD Crosstube Installation without Step (no hardware)													
D5123-3		Manufactured	No				Each	94.0000		4		DAS 41 9-89	16-5-2
D5123-3									**				
Clamp Cushion													

Location	Loc Qty	Loc Code
LG054	58	
126747	12	
127133	6	
137223	40	
LG055	36	
141331	36	

D5149-041		Manufactured	No				Each	10.0000		2		DAS 41 9-89	16-5-19
D5149-041									**				
Fwd Step Base Assembly													

Location	Loc Qty	Loc Code
LG051	10	
134949	10	

DQA: _____ Date: _____



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Date :		Step #:		QTY Effective :			MRB (QS1042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐					
Misidentified ☐	Past Due ☐						

Picklist Print

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Page 2

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Parent Item: D119-796-151

D119-796-151

Parent Item Name: FWD Crosstube Installation with Step (no hardware)

Start Date: 3/21/2016

Required Date: 3/25/2016

Start Qty: 1.00

Required Qty: 1.00

MS21920-22

Purchased

No

Each

130.0000

4

DAS

MS21920-22

41

16-5-2

Clamp

Location

Loc Qty

Loc Code

LG050

100

M133769

100

3

LG056

30

M133577

30

13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
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Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mis-labeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

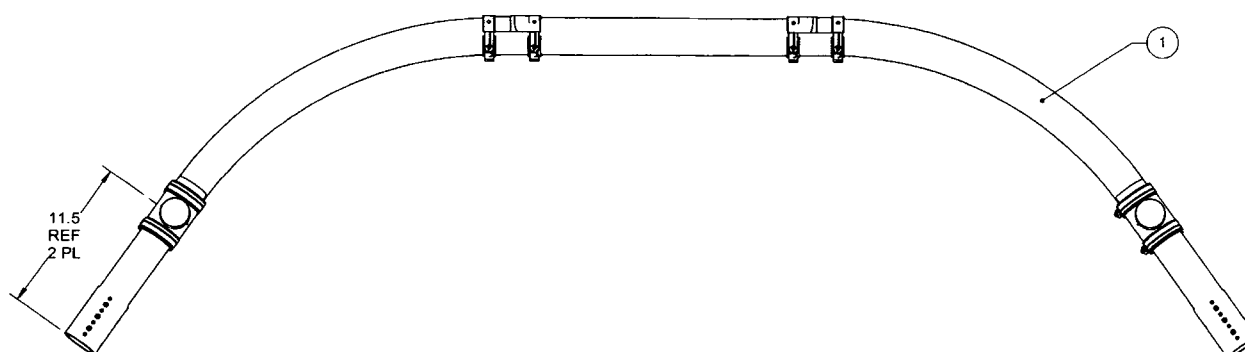
ITEM	QTY -151	P/N	DESCRIPTION
	X	D119-796-151	XTUBE ASSY (AW119 MKII FWD)
1	1	D119-796-141	XTUBE ASSY (AW119 MKII FWD)
2	4	D5123-3	CUSHION
3	2	D5149-041	FWD STEP ASSEMBLY
4	4	MS21920-22	CLAMP

△

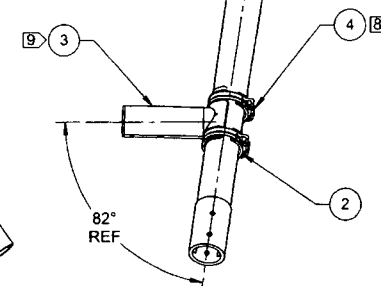
△

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 143553 MWS
16-03-16

D119-796-141 XTUBE
BENDING PLANE



D119-796-151 XTUBE ASSY (AW119 MKII FWD)



RELEASED

2015 FEB 09

ECN 15-516 6

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 METHOD 6.5
- 7) WEIGHT: 19.87 lbs
- 8) TORQUE MS21920-22 CLAMPS TO 50 IN-LBS MAX
- 9) LOCATE STEP USING POST FITTING ON CROSSTUBE

△

D	D5123-3 CLAMP CUSHION WAS D5123-9 CLAMP CUSHION, MS21920-22 WAS -24.	AP	15.01.19
C	RE-DESIGN STEP INSTALLATION	DB	14.11.24
B	D5149-043 WAS D5149-041, AN4C6A WAS AN4C10A, D2274 WAS D5153-1	AP	14.11.04
A	NEW ISSUE	AP	14.09.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AP		
CHECKED	DB	DRAWING NO. D119-796-151	
MFG. APPR.	JLM		
APPROVED	HS	TITLE XTUBE ASSY (AW119 MKII FWD)	
DE APPR.	DS		
DATE	15.01.19	REV. D SHEET 1 OF 1 SCALE NTS	

APPROVED

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